UK regulations: Could fracking creep under the radar?

NATURE | **CORRESPONDENCE**

UK regulations: Could fracking creep under the radar?

David Smythe & Stuart Haszeldine

Nature **548**, 393 (24 August 2017) doi:10.1038/548393a
Published online 23 August 2017

Subject terms: Energy Policy

Print

As sometime energy advisers to the UK government, we are concerned that fracking of unconventional oil and gas formations risks being classed as conventional hydrocarbon exploration, a relatively insignificant and unobtrusive cottage industry in the United Kingdom. This results from the government using legally binding definitions of unconventional oil and gas (UOG) resources and of high-volume hydraulic fracturing (HVHF, or fracking) that have little rational or scientific basis.

The government classes shales as unconventional sources of oil and gas, whereas limestone and sandstone rocks are conventional sources. This overlooks unconventional 'tight' (low-permeability) limestone and sandstone. Although there is no universal definition of UOG, the consensus is that the hydrocarbons are held in tight rock (permeability less than 0.1 millidarcies), are unevenly concentrated and widely dispersed, and can be extracted by acid or HVHF.

The UK definition of HVHF is based on how much water is needed for extraction: 10,000 cubic metres or more per well. But the US threshold for HVHF of shale, based on roughly 264,000 fracked US wells, is about 2,000 m^3 of extraction water per oil well and 2,500 m^3 per gas well (T. J. Gallegos *et al*. *Water Resour. Res.* **51**, 5839–5845; 2015).

Current exploratory drilling in the United Kingdom's Weald Basin is registered as 'conventional' because the hydrocarbon licensees are testing thin limestone layers in the shale and are not yet fracking. Assuming the UK licensees start HVHF, they can then in principle claim that it is conventional hydrocarbon production by keeping the fracking fluid volume to less than 10,000 m^3 per well, which would evade environmental obligations specified in the 2015 UK Infrastructure Act.

Author information

Affiliations
Ventenac en Minervois, France.
David Smythe

University of Edinburgh, UK.
Stuart Haszeldine

Corresponding author
Correspondence to: David Smythe

Nature ISSN 0028-0836 EISSN 1476-4687